II. Change of Thinking and Law Making

The Paradox of Non-Trivial Machines

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Trivial and Non-Trivial Systems

Systems theory views systems comprised of interacting or interdependent entities, real or abstract, forming an integrated whole that receive input from their environment (in the case of living systems it is necessary to have material, energy and data) and transform it via throughput into output. In the initial vision of the founders of cybernetics, systems were required to function as reliable machines, which are possible to direct from the outside and be used for some purpose. One can, for example, press a button on a coffee automat and in a few moments have a cup of hot coffee. This kind of system (or machine) is determinative: the input (pressing the button) always gives a certain result (the button pusher receives the desired coffee). This relationship between the input and the output determines the construction of the machine.

In our everyday lives, we are constantly in contact with such systems - be they in the form of automobiles, printers or toasters. Founder of second-order cybernetics Heinz von Foerster (1997, p. 34) named such systems „trivial machines" (figure 1).

Figure 1. Trivial Machine

Source: von Foerster 1997, p. 35

The square in the figure represents a machine, the function *(f)* of which is determined by its creators. The letter *x* is the input and *y* is the output. The function of the machine is to tie the input in the predetermined manner to the output, *or y = f(x).* The output *y* shows how the machine reacts to the input x - and therefore the output is entirely dependent on the input. Von Foerster offered four possibilities to explain the operation of a trivial machine *{ibid.,* p. 35):

x	*y*
A	1
B	2
C	3
D	4

If the machine „recognizes" or „sees" the input (reason) A, it then produces output (influence, effect) 1; in the case of B, the output is 2, etc. Here, a mechanical cause and effect scheme is functioning: in accordance

with some law, cause *x* produces the result *y*.

Depending on how the numbers and letters are combined among themselves, with four input and four output values, it is possible to construct (design) $4^4 = 256$ such machines. Whether the number of input options is four or four billion, this type of machine is always predictable: as long as the machine is not broken, it will not surprise the machine's user.

Non-trivial machines are entirely different. They react not only to input, but also to their own internal states. Von Foerster presented the simplest model of this type of machine (figure 2) which is comprised of the input *x*, output y and its internal state z, which has two possible functions: $y = f(x,z)$ and $y = g(x,z)$.

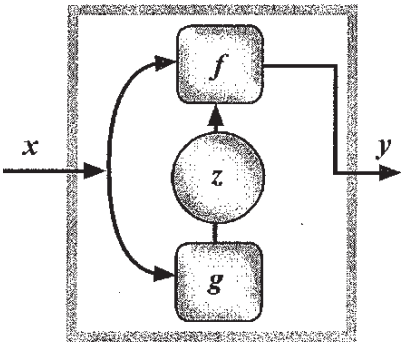

Figure 2. Non-Trivial Machine

Source: von Foerster 1997, p. 38, presented here in modified form

In this case, the output *y* is dependent not only upon the input, but also upon the internal state of the machine. As a practical matter, what this means is that even in the case of two possibilities (*f* and g), the same input may not necessarily result in the same output. Von Foerster wrote *(ibid.,* p. 38): „the machine's operations are dependent upon its past operations." This may be interpreted to mean that the internal states of the machine are the system's memoiy. Von Foerster suggested that a non-trivial machine should be analyzed as if it were comprised of a series of different non-trivial machines. Thus, in the case of the different binary possibilities (n = 1,2, 3, 4) of *x* and *y,* the number of possible trivial machines is enormous and the task is to find the single machine whose output is considered acceptable. Even in the case of one input variable (n = 1 binary possibilities), the possibility of 10^5 different machines must be considered. If n represents 2 binary possibilities, the number of possible machines is almost 10^{77}, in the case of n = 3 the number is lO^{4002} and in the case of n = 4 it is 10^{70003}. To illustrate this, Von Foerster (1977, p. 40) has set forth the following data:

Number of input and output variables	Number of possible non-trivial machines	
2	2^{16}	65 536
4	2^{8192}	10^{2466}
8	$2^{3x2^{80}}$	$10^{969685486}$

If there are 2 input and output variables, then in order to produce a non-trivial machine, it would be necessary to have 65, 536 trivial machines, from which is necessary to isolate the one machine that produces the desired output. If, however, there are four different variables, it would be necessary to try 10^{2466} different trivial machines. In the case of 8 variables, the number reaches $io^{969685486}$. Von Foerster has noted (ibid, 40), that the age of the earth is approximately 5×10^{23} microseconds. If it requires even just one microsecond

to „test" each machine, one may calculate how many earth ages would be necessary to find the appropriate output for the user. Here, von Foerster used the term *transcomputational*: the output of such machines is not capable of calculation. Non-trivial machines are unpredictable.

Mechanical machines that we see in our everyday lives are trivial systems. They respond to an object-subject relationship. However, humans and their forms of social order - various groups and subgroups - are non-trivial systems. A person's nervous system is not observable from the outside and a person is capable of learning and changing. A simple example: imagine that you have told a joke to a companion and he laughs wholeheartedly. If you tell him the joke again for a second time, he may give a grudging smile. Upon the third retelling, he would like to hit you. The human body is complicated and capable of learning. In the same manner, society and its subsystems - a couple's relationship, family, organization, business, the state - are also non-trivial systems. They are also analytically unpredictable, dependent on the past and should not be directed by the logic of linear cause and effect relationships.

Instead, an amazing paradox comes to light: social science studies, including media and communication studies, follow the trivial machine model. The input *x* is often named the independent variable and the output *y* the dependent variable. Empirical studies then attempt to prove a connection between the two. Derived from this, *x* and_y may have many different labels: cause *{causa)* and effect (*effectus*), stimulus and influence, question and answer, advertising and consumption, etc. In other words, social sciences assume that a person and society act as trivial machines.

Since those studies are predominantly successful, it might be tempting to conclude that it is possible to describe people, as well as society and its subsystems, notwithstanding their internal states and memories, as trivial machines. Moreover: people and groups may be directed to act in the same manner as trivial machines - not only in the army, for example, but also, with the assistance of strategic communication (advertising, public relations, propaganda). Furthermore, if individuals do not submit to such direction, then they are considered by the rest of society to be stubborn, untrustworthy, capricious and bad.

A question arises: What enables an individual and society to be handled as a trivial machine? This appears to be a contradiction between cognitive autonomy and social orientation. Looking at it from one side, individuals and groups are unarguably non-trivial systems that have their own complexities and memories. This should make them unpredictable. Looking at it from the other side, an individual is a social being and as such is in constant interaction with other individuals. This interaction is not at all disorderly or haphazard or in any way similar to Brownian movement. On the contrary, it is meaningful, coherent and stable: individuals react understandably and predictably to events and new information. How is this possible?

Another Paradox

The issue of the relationship between cognitive autonomy and social orientation is also essential in the context of media studies. Elihu Katzi and Paul Relix Lazarsfeld concluded in 1955 in their book, *Personal Influence,* that it is precisely the study of influence that is the research engine of mass communication. In the final analysis, researching communication is all about learning to understand influence *{see* Katz & Lazarsfeld 1955, p. 18). German communication scientist Karsten Renckstorf wrote more than 10 years ago that the legitimacy of communication theory as an academic discipline is due to its central interest in the influence of communication (Renckstorf 1995).

Currently, the situation has developed in studies of media influence that for the last half century the predominant theory has embraced the minimal influence model. It emphasizes the great importance of individual and structural factors and reduces the role of media to mere amplification (Blumer & McQuail 1968; Lazarsfeld, Berelson & Gaudet 1944; McQuail 2003, pp. 374-379, 401-423; Miller 1991, pp. 1-4). At the same time, there are numerous results of studies that create doubt about the validity of the hypothesis of limited or restricted media influence. Empirical studies have, on at least twenty occasions, proven the sufficiently tight relationship between media content and survey results (Fan & Tims 1989; Holbrook 1996; Iyengar & Simon 2000; Lawson & McCann 2005; McCombs & Shaw 1972; Palmaru 2005; Roberts 1992; Shaw 1999; Valenzuela & McCombs 2007; and others).

An important study of the influence of media from the 1999 and 2003 Estonian parliament (*Riigikogu)* and 2002 local municipal government *{volikogu)* elections (table 1) serves as a significant example. Let it be stated that this is the first time on this side of the Oder-Neisse line that the influence of media has been measured.

Table 1. Linear regression models: dependence of election results upon the valuation of political parties in the print media and advertising

	9 pre-election weeks: Jan. 4 - June 1, 1999		8 pre-election weeks: Sept. 3 - Oct. 19,2002		9 pre-election weeks: Jan. 1 - Mar. 1,2003	
Adjusted R^2	0.971		0.966		0.994	
s_e	1.860		1.395		1.264	
Significance	0.000		0.004		0.000	
Arguments	*Beta*	Sig.	*Beta*	Sig.	*Beta*	Sig.
x_p	0.987	0.000	1.545	0.004	1.445	0.004
x_e	-	-	-1.909	0.029	-.845	0.041
x_n	-	-	1.421	0.029	1.125	0.007
x_a	-	-	-	-	-.767	0.005

Source: Palmaru 2005, p. 41

The argument variables are positive media coverage ($x^{\wedge}$); neutral (x_e) and negative (x_n) media coverage; and in 2003 also frequency of positive advertisements (x_a). Adjusted R^2 is the adjusted coefficient of determination, s_e is the standard error, significance stands for the significance of the model, Beta is the standardized regression coefficient and Sig is their significance.

From the values of Adjusted R^2, it can be seen that in all three instances it is possible to speak of the strong relationship between election results and how the different political parties were presented in the print media. At the same time, the accumulation effect appeared: the political party preferences of those individuals who participated in the election by casting a ballot accumulated on the basis of available information diachronically during a period lasting several weeks.

After Maxwell McCombs and Donald Shaw presented their Chapel Hill survey results in 1972, the *agenda-setting e*ffect has found confirmation more than 350 times (Valenzuela & McCombs 2007,6). In some of those studies, the results have exceeded the assumptions of the agenda-setting theory *(see, for example,* Ha 2005, p. 5; Son & Weaver 2006, p. 190; and others). Under the influence of the results of those studies, Maxwell McCombs has, in fact, supplemented the *agenda-setting theory,* saying: „The media may not only tell us what to think about, they may also tell us how and what to think about, and even what to do about it." (Ha 2005, p. 5; Valenzuela & McCombs 2007, p. 19.)

Currently, the situation has developed that many theories and hypotheses about influence, as the central problem of communication science, have been presented, but the relationships between them are weak. Many research results have, in fact, been achieved more likely than not in a theory resistant manner. Moreover, both minimal influence theories and theories and hypotheses that assert that media influence upon public opinion and electoral preferences are great have found empirical confirmation. From the standpoint of bivalent logic, by which no quality may at the same time be absent and present, the situation is absurd.

Strong Or Weak Force?

Many researchers are concerned about the mass media's strong mud-slinging and negative influence on society and many aspects of politics. In 1976, political scientist Michael Robinson presented the *videomalaise* concept. He analyzed the content of the news programs of the American television networks ABC, CBS and NBC and found that they are too interpretive, anti-institutionalized and centered too much on violence and conflict. According to Robinson, events are interpreted significantly more than previously and those interpretations are significantly more negative than reality (Robinson 1976a; Robinson 1976b). According to this and many other treatments, the reality constructed by the media is oftentimes distorted. Individuals,

however, accept the offered criticism and it is the basis for their future constructions of reality. In this manner the media undermines the attitudes and conduct of the masses and also democratic institutions (Franklin 1994, p. 131; Meyrowitz 1995, p. 133; Ranney 1983, pp. 147-150; and others).

Many social scientists, however, find that the concern over journalism is useless. Political scientist Pippa Norris of Harvard University has noted that until now there is no reliable evidence that confirms the negative effect of media (Norris 2000, p. 11). English political scientist Kenneth Newton, however, has taken the position that media may indeed have some influence over certain aspects of political life and in some situations that influence may be determinative, but that the media is still only an intermediary and the real source of the influence is a much more powerful force than the media (Newton 2006, p. 210). Newton concluded that „the media are generally a weak force in society" *(ibid.,* p. 209).

Both positions are also supported by true-life facts. Richard Nixon, Michael Dukakis, Gerald Ford, Edward Heath, John Major, Neal Kinnock and Lionel Jospin are examples of how extremely critical and muckraking press may shorten or even totally destroy the political careers of democratic leaders. All of the named individuals were attacked by the media and all of them soon disappeared from politics.

But there are also other kinds of examples: Tony Blair, Helmut Kohl, Francois Mitterand, Jacques Chirac, John Howard, Pierre Trudeau and Brian Mulroney were not only in power for a long time, but dominated the political scene in their own countries despite the fact that their relations with the press were not particularly friendly. Many examples of situations in which the media was unable to change public opinion can also be given. Despite tremendous pressure from the media during the famous Clinton-Lewinsky scandal, the USA president's ratings remained high and in the national elections held just a few months later the Democrats even gained seats in Congress (Zaller 2001). In 1956, the British newspaper, *The Observer*, sharply criticized Great Britain's intervention in the Suez War and lost readership as a result. The newspapers *Guardian* and *Independent,* aimed at the same target readership groups, as well as the tabloids *Sun* and *Mirror,* which were in favor of intervention, all gained readership.

Kenneth Newton (2006, p. 220-225) brought forth the example of British Prime Minister Margaret Thatcher's frightfully expensive political campaigns. He wrote that Thatcher's government's most essential PR issues were taxes, privatization, pollution and Thatcher's personal image. Newton noted that 240 million Pounds Sterling were spent only to „sell" privatization. Nevertheless, judging by public opinion surveys, that show was never popular.

Constructed Reality

In order to attempt to solve that riddle, the work of three researchers are essential in the quest. The first is Heinz von Foerster, who has already been mentioned. Von Foerster has noted that the quality of activity of nerve cells is not in correlation with the quality of life of every individual. All identifiable physical differences or differences existing in the natural environment are coded in the observer's brain in the same manner - they are ..translated" into a pattern of active-inactive neurons. Von Foerster wrote: „The response of a nerve cell does not encode the physical nature of the agents that caused its response. Encoded is only 'how much' at this point on my body, but not 'what'." (Von Foerster 2007, p. 43.) In other words: no matter what nerve cells are stimulated, they never react to the quality of the stimulation, but always only to the quantity. A person's receptors and the nerves that relay the nerve impulses are ..blind" to the quality of the stimulation and react only to the quantity.

This raises a question: How does the brain achieve the result that a great number of quantitative changes from the data received from reactive nerve cells forms a qualitative subjective reality that is many-faceted, multicolored, full of tones and melodies, differentiated and is meaningful. Von Foerster demonstrated that that which is called perception is the endless recursive computing process. The observation does not produce an exact copy of reality, but an image, illusion and people do not accept things in the manner that they exist in reality *(ibid.,* pp. 44-46).

Second, assistance may be sought from Umberto Maturana and his student and coauthor, Fransisco Varela, whose so-called Santiago theory very significantly influenced the understanding of life, the relationship between perception and life as well as how living systems and social systems function. This influence was so great that it forced the revision of many theories. For example, Niklas Luhmann, probably the greatest sociologist of the second half of the 20th century, may be spoken of in terms of the early Luhmann (the 1970s)

and the later Luhmann (beginning in 1984). The difference is apparently caused by the circumstance that' Maturana's autopoiesis theory forced Luhmann to change his views.

After Maturana and Varela, it turns out that human brains do not have direct access to the world and they don't require it. A person's nervous system is self-contained, a system that is operationally closed off from the environment, the activity of which is associated only with itself. Nerve cell activity reacts to nerve activity and not to the outside world. The truth that the system's operations are oriented exclusively and without exception only to its own operations was labeled by Maturana and Varela as ..operationally closed". They wrote: .Operationally the nervous system is a closed network of interacting neurons such that a change in the state of relative activity of a group of neurons always leads to a change in the state of relative activity of other groups of neurons either directly through synaptic action, or indirectly through the participation of some physical or chemical intervening element. Therefore, the organization of the nervous system as a finite neuronal network is defined by relations of closeness in the neuronal interactions generated in the network. Sensory and effector neurons, as they would be described by an observer who sees an organism in an environment, are not an exception to this because all sensory activity in an organism leads to activity in its effector surfaces, and all effector activity in turn leads to changes in its sensory surfaces.

„That at this point an observer should see environmental elements intervening between the effector and the sensory surfaces of the organism is irrelevant because the nervous system is defined as a network of neuronal interactions by the interactions of its component neurons regardless of any intervening elements. Therefore, as long as the neuronal network closes onto itself, its phenomenology is the phenomenology of a closed system in which neuronal activity always leads to neuronal activity." (Maturana & Varela 1980, p. 127).

Maturana considered perception to be a biological phenomenon that can only be understood as such (ibid, 7). Perception does not mean the reception of the objects of the outside world, but that world's constant recreation during the life process. Substantively, Maturana repeated that which Kant had already written in 1781 in his „The Critique of Pure Reason": the reality in which people live has been created by themselves.

According to Maturana, cognitive systems are closed, autopoietical systems that reproduce themselves (Maturana & Varela 1980, pp. XVIII-XIX). The term *autopoiesis* (< Greek *poiesis* 'creating, creation' is derived from the word *poiein* 'to do' + Greek *autos* 'yourself') means to create / to do to organize by yourself. How an autopoietic system observes the environment (that means which internal influences are tied to the interaction of the system and the environment) is not determined by the environment, but by the system (Maturana & Varela 1980, p. XXVIII and 22). This holds true for not only biological systems but for all autopoietic systems, including social systems, such as the press.

Maturana also provides an essential answer to our question. He wrote: „A living system, due to its circular organization, is an inductive system and functions always in a predictive matter: what happened once will occur again. Its organization, (genetic and otherwise) is conservative and repeats only that which works. For the same reason living systems are historical systems; the relevance of a given conduct or mode of behavior is always determined in the past." (Maturana 1980, pp. 26-27.)

The third man to look to for support is German philosopher Hans Vaihinger (1852-1933), who is the author of the book, „Philosophy of As If', which was published in 1911. The book itself was written 30 years earlier[1] and in it Vaihinger presented his theory of fictions. Serving as a recommendation for this person who is a relatively unknown thinker is the fact that Vaihinger's main work has been translated into 12 different languages. During his lifetime he was more widely known as a researcher of Kant, but „Philosophy of As If' became the subject of ferocious criticism. This is not surprising because he set himself into opposition with the skeptics, positivists and materialists of his time with his assertion that teachings must not be evaluated on the basis of truth, but on the basis of their utility. Although Vaihinger was not nearly as well known by his contemporaries as were his critics, his book was well received in academic circles. Moreover, in the last quarter of the 20th century, or about a hundred years after his book was written, Vaihinger has been rediscovered and his theory of fictions has become a subject of great interest among literary experts and social scientists.

Vaihinger wrote that people will never be able to understand the real world and that is the reason why

1 August Seidel has written extensively about the story of creation of *Philosophie des Als Ob:* Seidel, A. 1921, „Wie die Philosophie des Als Ob entstand", *Die Deutsche Philosophie der Gegenwart in Selbstdarstellungen,* Band 2, Felix Meiner, Leipzig, pp. 175-203.

people construct thought systems, presuming that they fit in with reality (from this the „as if' in the title of the book). People act as if the real world fits together with their models. Vaihinger: „It must be remembered that the object of the world of ideas as a whole is not the portrayal of reality - this would be an utterly impossible task - but rather to provide us with an instrument for finding out way about more easily in the world." (Vaihinger 1924, pp. 159-160.)

Many essential assertions have been collected. First of all: how an autopoietic system observes the environment is not determined by the environment, but by the system. From this it follows, among other things, that communication is not the transmission of information through language, but the construction of realty that corresponds to the system, and the media is not the mirror of reality, but rather the creator of the construction that corresponds to the system (*see* figure 3). The system's dynamic state variables reflect the past, for which reason the system's state may be compared with memory. The system always retains that which came before.

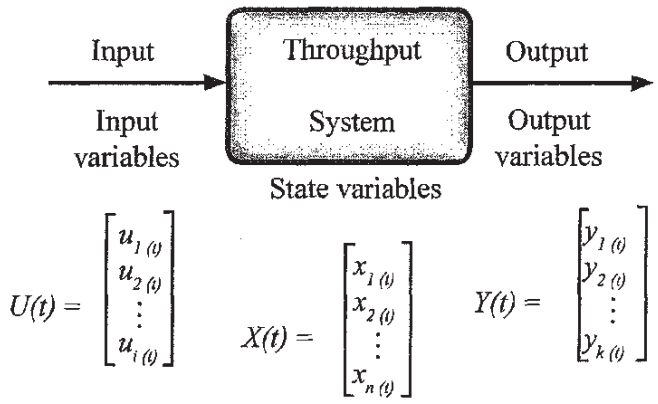

Figure 3. Cognition and Communication As a System

What one sees and how he describes the results of his observations determines the system's state variables - its memory, its level of knowledge. This, of course, means that one lacks neutral access to reality. Observing systems and their environments form an operative whole. In this process, the act of perceiving and that which is perceived can only be separated analytically from one another. Social groups or even entire societies organize their experiences via communications that are recursively connected to each other, thus building stable orders that underlie all social activities as collective knowledge or frames of reference.

This is in accordance with Vailhinger's assertion that individuals are incapable of understanding the real world and people construct thought systems assuming that they fit in with reality. And third, Maturana's assertion that a living system, due to its circular organization, is an inductive system and always functions in a predictive manner: what happened once will occur again. How does this happen?

Fictions As a Solution to the Paradox

Gestalt psychologists Wolfgang Metzger and Wolfgand Kohler demonstrated experimentally as early as 1930 that one's perception operates on a principle of distinction: figure versus (background (Kohler 1968, p. 76 *et seq.;* Metzger 1966, p. 693). People are capable of perceiving something only if they are able to differentiate one thing from another - a book lying on the table from the table, a bookcase against the wall is a bookcase, not the wall, etc. In other words, one never perceives identities, but differences; identities may be described as the unity of a difference. It follows that in perception one cannot get behind or beyond perception in order to compare the perceived with the not yet perceived, or to check the truth or objectivity of one's perceptions. British mathematician George Spencer-Brown demonstrated in his book, *Laws of Form* (1969)

that all logical structures, including constructions of reality, can be reduced to one simple operation - the creation of distinctions.

Spencer-Brown noted that the „universe comes into being when a space is severed or taken apart. The skin of a living organism cuts off an outside from an inside. So does the circumference of a circle a plane. By tracing the way we represent such a severance, we can begin to reconstruct, with an accuracy and coverage that appear almost uncanny, the basic forms underlying linguistic, mathematical, physical, and biological science, and can begin to see how the familiar laws of our own experience follow inexorable from the original act of severance. The act is itself already remembered, even if unconsciously, as our first attempt to distinguish different things in a world where, in the first place, the boundaries can be drawn anywhere we please." (Spencer-Brown 1972, p. V.)

Thus, if one perceives, describes or thinks about something, then one is always engaging in a game of differentiation. One person (and not another) describes (but does not explain) something as that (and not something else). In addition to that, people use language, the possibilities of meaning and social acceptance that they prefer and whose viability they confirm. People are observed with the aid of such distinctions as young and old, man and woman, cold or warm temperature, feelings of love and hate, etc.

Social groups - even entire societies - organize their experiences with the assistance of reflexivity and communication, which are recursively tied to each other. The result of that is a more or less stable social order the basis of which is common activity.

The tool for the organization of those experiences is Vaihinger's fictions. German communication scientist Siegfried J. Schmidt differentiates „fictionality" as a discoursive quality of literature and „fictions" as *as if* assumptions whose correspondence to reality is not proven, but which is simply taken for granted. The last he named as operative fictions (Schmidt 2005, p. 34; 2003, pp. 25, 33; 2001, p. 11). In evaluating operative fictions, the criteria for evaluating them is not their truth, correspondence to reality, but only their utility, the same as Vaihinger. Schmidt wrote: „Since in neurobiological terms the brain is operationally closed, and no-one can say whether imputations are true or false, society must rely on secondary interaction processes which we functionalize as indicators of the viability of our expectations." (Schmidt 2001, p. 11.) Following him, the social fiction of commonly shared collective knowledge serves as the basis for all interactions and communications. People assume that others know what they know, live in worlds similar to theirs, and use language more or less the way they do. Societies arise and last if and as long as people orient their activities in the broadest sense towards this allegedly shared common knowledge, which schematizes all their experiences which claim to be „real" and „relevant" (Schmidt 2005, p. 34; 2001, p. 17).

This kind of reflexive perception occurs on many levels, for which reason Schmidt differentiated different types of fictions. Three of them are of interest: social fictions, media fictions and culture. The first means cognitive schemata and categories which are formed during socialization and which supports interaction.

Media functions, according to Schmidt (2001, pp. 20-21), are the public sphere, public opinion and image. The latter are social constructs which may be described as coherent schemata consisting of cognitive and emotive structures assigned to persons, organizations, products, events or ideas. Images are built first of all for those referential items that are beyond immediate personal experience or accessibility for the majority of people in society. They are neither objective nor true, but intertwine information and opinions that are relevant in the public sphere and serve the purpose of constructing a desirable picture of people, organizations, etc., in the public sphere *{ibid.,* p. 21).

Following the logic of Niklas Luhmann, Schmidt understands culture as a program (Schmidt 1994, p. 599 *et seq.*; 2001, p. 20; 2003, p. 38 *et seq.;* 2005, p. 35 *et seq.).* It turns out that with the aid of categorical and semantic differentiation, the system creates for itself a world model that systematizes knowledge needed for problem solutions in all dimensions that are relevant for the success and the survival of society. As knowledge systems, world models are based on dichotomies and differences such as system/environment, we/others, good/bad, love/hate, powerful/powerless, young/old, healthy/ill, and so on.

„What 'good' or 'bad', 'true' or 'false', 'sane' or 'ill' really mean in a society and what relevance these distinctions and their combinations actually possess, is determined by what might be called the semantic programme of a society. Only this programme gets and keeps the world model going." (Schmidt 2005, p. 38; 2003, p. 38; 2001, p. 18). Schmidt called this program of socially obligatory semantic instantiation of world models *„culture".*

Approaching from the logic of social systems, it must be noted that the term culture is used in at least two meanings that are interrelated. The use of the word „used" here is not accidental: Ludwig Wittgenstein

indicated that „ [t]he meaning of a word is its use in the language" (Wittgenstein 2005, § 43). One meaning of culture is that which Schmidt wrote about. Something close to that meaning, although written in a different wording, was also written about culture by anthropologist Clifford Geertz, who defined culture „[a]s interworked systems construable sign" (Geerts 1973, p. 14).

In addition, the use of the word ..culture" is also used in a meaning that is tied to the concept of „creation of culture" (the creation of artifacts), „cultural industry", „ministry of culture", etc. Here is meant primarily the creation of (fine) art and the regulation of the creation of art objects or, in other words, the social subsystem dealing with art. Culture in that meaning is a part of the first. Culture as defined by Schmidt or Geertz does not mean a ticket to the opera or a season ticket to the productions of Estonian Concert (Eesti Kontsert), but nevertheless an operatic performance or a symphony concert are expressions of culture, its institutionalized form. Culture, via performance or concert, becomes visible.

All actors in a society lean to a greater or lesser extent upon a common model of reality as collective knowledge and a cultural program. Thus, it becomes possible to understand one another and engage in common activity - despite the cognitive autonomy of the actors.

Let it be noted once again that, different from the Cartesian dualistic model, truth here does not mean that the result of perception - the image or copy of reality - corresponds to the reality outside of the preceptor and that a person's understanding reflects the outside world as it really is. The truth here lies only in that which has been perceived conforms to operational fictions, the assertion that has been perceived is consistent with one's understanding of things as they should be. The same holds true not only for things, but also for assertions, where the proposition is consistent with one's preconceived notions.

The correspondence or non-correspondence of the media's message to operational fictions with the community's common understandings explains why in some instances the media is influential and not in others. There is reason to believe that in public communication channels, the correspondence of that which is said about one or another politician or one or another political party to the treatment of reality by society and its different groups also determines the results of elections. Parliaments are formed on the basis of the voters' understandings and its members embody their countiymen's most precious imagination.

Culture Is Not a „Soft" Value

Social systems function on the basis of culture. Culture coordinates the actors' significant actions and thus makes possible the social system's coherence. Culture dictates a society's three basic processes: observations, communication and decisions. It decides what a person sees, what he turns his attention to and how he inteiprets those sights, what and in what manner he speaks, writes or draws as well as what he decides based on what he sees and hears.

Communication and thinking in a language are naturally social: people are born into a certain environment where they acquire via the local culture a way to refer to the things of the world. The same is true of groups of society where every discourse construes reality in some manner. The word „discourse" here denotes two things. First, it denotes the connected network of meaning, metaphors, presentation, image, talks, sentences, etc., which creates some version of a thing, event or person. This is only one possibility among many: parallel to that are other possibilities of describing the same object. Those other possibilities show the thing in an entirely different light and tell a different story about it. The discourse constructs reality in some manner and different discourses act in different ways.

This kind of presentation is one side of the coin. The other side is that which was indicated by French historian and philosopher Michel Foucault. He defined discourse as ..practices which form the objects of which they speak" (Foucault 2005, p. 49). This definition points out the truth that discourses are structures for understanding by which people discover the world and which direct their activities. Management theoretician Steven Covey has written that „everything is created twice: first spiritually and then materially" (Covey 1997, p. 104). This becomes clear when we use building a house as an example: before the first nail is hammered into the wall, the structure is planned in one's head or on paper. A person's activities are guided by the images of his senses. In other words: the image is tomorrow's reality. Things are created and also destroyed first in the form of images. Discourses direct people's knowledge, their common understanding of things and events, and from that follows activity. In this maimer, society and its relationships are constantly being recreated with the help of culture. From this an essential conclusion: culture is not at all a „soft value", but something that

may direct attention to that which is wished for or desired. Culture forms that basis upon which successful functioning of the system (society, organization, business) is possible at all.

Returning now to the main issue: culture is also the thing that helps operationally closed and cognitively autonomous systems to function in a cooperative manner. The actors are supported in their activities by common knowledge as well as a cultural program and understandings. Thus, their common activities are made possible despite cognitive autonomy. It is upon that very basis that operationally closed systems in a complex environment are viable.

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